



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,366	07/13/2001	Xiaorong Wang	P99048US2A	2974

7590

09/06/2002

John H Hornickel
Bridgestone Firestone Inc
1200 Fireston Parkway
Akron, OH 44317

EXAMINER

FUBARA, BLESSING M

ART UNIT

PAPER NUMBER

1615

DATE MAILED: 09/06/2002

1

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,366

Applicant(s)

WANG ET AL.

Examiner

Blessing M. Fubara

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 & 5. 6) ☐ Other: _____.

DETAILED ACTION

Examiner acknowledges receipt of preliminary amendments A and B filed 09/24/01 and 02/05/02 respectively and information disclosure filed 02/07/02 and 12/12/01 respectively.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (5,905,116).

Wang a method for preparing a centipede grafted polymer composition by reacting maleated polyalkylene and a poly(α -olefin-co-maleimide) with a diamine (abstract, column 2, lines 62-65 and column 3, lines 7-22). Wang further teaches a process for preparing an oil extended grafted polymer compositions broadly comprising maleated polypropylene grafted to a functionalized thermoplastic elastomer that is a poly(α -olefin-co-maleimide) and the condition of the reaction is sufficient to allow grafting of the functionalized polypropylene with the functionalized thermoplastic elastomer (column 3, lines 19-22). The maleic anhydride content in the maleated polypropylene is from about 0.01 wt. % to about 5-wt % based on the weight of the maleated polypropylene (column 5, lines 38-43). Wang teaches the formation of poly(α -olefin-co-maleimide) from styrene electron donor monomer and maleic anhydride electron acceptor monomer in the presence or absence of a free radical initiator in bulk or in inert hydrocarbon or halogenated hydrocarbon solvent (column 6, lines 6-19). Wang teaches the

Art Unit: 1615

preparation of poly(α -olefin-co-maleimide) from α -olefin monomers of C_3 to C_{20} with maleic anhydride and the poly(α -olefin-co-maleimide) used for preparing the extended grafted polymer contains 5-99 mole percent maleic anhydride (column 6, lines 21-39).

Wang prepares the poly(α -olefin-co-maleimide) by reacting a poly(α -olefin-co-maleic anhydride) in the presence of a mono-primary amine; the reactants are preferably dry mixed and the primary amine may be added in a singular charge or in sequential charges into a reactor containing a charge of poly(α -olefin-co-maleic anhydride); and the primary amine is charged at a ratio of 0.8 to 1.0 mole of amine per unit of maleic anhydride per monomer of the poly(α -olefin-co-maleic anhydride) (column 6, lines 45-59).

The grafted polymer is prepared by adding a grafting agent to a blend of maleated polypropylene and poly(α -olefin-co-maleimide) and the process leads to partially cross-linking the polypropylene to the poly(α -olefin-co-maleimide) through maleate functional groups (column 7, lines 27-33). Wang further discloses that the grafting is performed by reacting from about 50-90 wt % of poly(α -olefin-co-maleimide) and from about 10-50 wt % of maleated polyalkylene and from about 0.01-10 wt % of a diamine under appropriate dry conditions that promotes the formation of polyalkylene grafted poly(α -olefin-co-maleimide) centipede polymer (column 7, lines 27-38). The preferred process involved four steps with the last step involving the addition of extender oil; the product is not removed from the mixing chamber and in examples 1 and 2 the reaction mixture is cooled at a rate of 4°C/min (column 8, line 21 to column 11 line 29). Wang discloses that damping is conveniently measured by determining a $\tan \delta$ parameter (column 11, lines 66 and 67) and the gels of Wang has $\tan \delta$ in the range of

Art Unit: 1615

about 0.1 to about 1.0 (column 10, lines 26-37); the composition can be extrusion molded, calendar molded or injection molded (column 11, lines 26-29).

Although, Wang teaches that the gel has a $\tan \delta$ in the range of from about 0.1 to about 1.0, claim 1.d) is optional. Wang clearly teaches the process of the claimed invention and thus anticipates the claims.

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification including the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is 703-308-8374. The examiner can normally be reached on 7 a.m. to 3:30 p.m. (Monday to Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3592 for regular communications and 703-305-3592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1234.

Blessing Fubara
September 5, 2002

THURMAN K. PAGE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600